

**SAS Superstructure**

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 22-Nov-14

Time 7:02 AM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 1101 Const Calendar Day: 674 Date: 09-Apr-2014 Wednesday

Inspector Name: Brignano, Bob Title: Transportation Engineer

Inspection Type:

Shift Hours: Break: Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

**04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge****Weather**

Temperature 7 AM

12 PM

4PM

Precipitation

Condition overcast am, clear pm

Working Day ☒ If no, explain:**Diary:**

Dispute

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:

ABF Engineer Kelvin Chen is working part time in the field and office on CCO 314.

On site today from VGO is Rob Rutledge. VGO arrives on site at 0800 and leaves the site about 1200. In the afternoon, VGO produces the evening data reports.

Crews at the Pier 7 warehouse area are working an 8-hour shift 0700 through 1530 today. Ironworkers Jared Garret and Kyle Crowley start work at the test rig site after the morning 10am break, are present for the tensioning steps, and then work the remainder of the morning and afternoon on non-CCO 314 operations elsewhere at the Pier 7 warehouse area. Portions of the shift not spent at the CCO 314 test rigs are not covered in this diary.

Between 0900 and 1000, CT-METS Conrad Christensen, Elijah Turner, and Saied Khan are present on site in the Pier 7 warehouse to examine the TR 7 test rod and take samples, and I am with them for part of this time. The samples are of the white rust or zinc oxide from the test rod in the area of the nut engagement. The samples are taken at the DJV's request.

VGO performs reference electrode and pH checks at TR's 12 & 13 approximately 0910 to 0940. CT-METS is notified so that a note about the noise can be made with the AE data. It is noted that the reference electrode stays within 5 mV when compared with the master electrode in the pre- and post-checks. It is also noted that when checking the pH paper with the 7.00 buffer solution, the 4.0-7.0 pH paper and the 6.5-10.0 pH paper both read 6.5.

Starting after the morning break, the tensioning steps (0.55 Fu) at TR's 12 and 13 happen. Two ironworkers are present to operate the hydraulic pump, turn the nuts, and perform the NaCl Solution flow / air venting steps from the wet chamber at the washer notch. VGO is present to monitor the loads being used to guide the operation. Present from CT-METS is Elijah Turner with MISTRAS personnel on the phone line continuously monitoring all AE data on the two channels for each test rig during the jacking operation and the water/air venting. Present from the DJV are Hayat Tazir, Ashley Takata, Carol Choi, and Godwin Mok during the jacking operation, with Carol Choi and Godwin Mok present during the NaCl Solution flow / air venting steps.

Test Rig #12 (2008 Rod, ID S2-A8, Heat MJF-32, Top) Jacking Step:

This is the 4th jacking step and the rod is being jacked to 0.55 Fu. The post-seating of the nut target is 459.690 +10/-0 kips. The expected hydraulic pressure at this locked off force is 2,700 psi. Based on the



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previous jacking step (0.50 Fu), the expected seating loss is at least 32 kips, meaning the initial jacking target is ~495-505 kips. Jacking is started at about 1027. At 2,700 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 435 kips. The hydraulic pressure is increased to 3,100 psi and the primary strain gauges give a force of 471 kips. The hydraulic pressure is increased to 3,200 psi and the primary strain gauges give a force of 487 kips. The hydraulic pressure is increased to 3,250 psi and the primary strain gauges give a force of 491 kips. Note that this test rig has made a noise that sounds like wood crushing during tensioning and release steps, so I investigate during some of these jacking steps today, and determine that the noise is coming from under the stainless steel slide plate which rests on timber blocking and apparently is due to the jacking beam bearing down on the plate/timber during the jacking. This bearing of the stainless steel slide plate on the timber blocking may be responsible for the higher hydraulic pressure being necessary to achieve the desired tension in the rod during the jacking steps. The AE is checked with the ok given at 1030. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 490 kips (bleed loss = 1 kip). After bleeding off the jacks, the primary strain gauges give a force of 457 kips (seating loss = 33 kips). The tension in the rod after seating the nut is not within tolerance. For the second jacking step, at 1031, at 3,300 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 503 kips. The AE is checked with the ok given at 1033. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 501 kips (bleed loss = 2 kips). After bleeding off the jacks, the primary strain gauges give a force of 466 kips (seating loss = 35 kips). The force is within the specified tolerance at 1039.

Test Rig #13 (2008 Rod, ID S2-A8, Heat MJF-32, Bottom) Jacking Step:

This is the 4th jacking step and the rod is being jacked to 0.55 Fu. The post-seating of the nut target is 459.690 +10/-0 kips. The expected hydraulic pressure at this locked off force is 2,700 psi. Based on the previous jacking step (0.50 Fu), the expected seating loss is at least 34-35 kips, meaning the initial jacking target is ~495-505 kips. Jacking is started at about 1036. At 2,700 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 446 kips. The hydraulic pressure is increased to 3,100 psi and the primary strain gauges give a force of 502 kips. The AE is checked with the ok given at 1039. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 499 kips (bleed loss = 3 kips). After bleeding off the jacks, the primary strain gauges give a force of 459.7 kips (seating loss = 39 kips). The tension in the rod after seating the nut is technically right at the bottom end of the tolerance but it typically continues to slide slowly downward for several minutes after locking off the nut, so we consider it to not be within tolerance and want to get a few more kips of load on this rod in today's jacking step. For the second jacking step, at 1041, at 3,100 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 506 kips. The AE is checked with the ok given at 1042. The nut is tightened - note that nut is barely turned because the added force during this second jacking step is not much more and because only a few more kips are needed to be in tolerance. Prior to bleeding off the jacks, the primary strain gauges give a force of 505 kips (bleed loss = 1 kip). After bleeding off the jacks, the primary strain gauges give a force of 465 kips (seating loss = 40 kips). The force is within the specified tolerance at 1043.

After the tensioning steps at TR's 12 and 13, the NaCl Solution flow / air venting steps through the notch in the washers need to be completed at the wet chambers. This step was done two days ago and there are no changes to the wet chambers at this dead end, but the DJV has requested that this step be performed every other day regardless. For today's operations, Carol Choi and Godwin Mok from the DJV witnesses the flow at both test rigs. The operation of flowing NaCl Solution from the notch involves removing the plumbers putty and backer rod, flowing NaCl Solution for few minutes (flows into SWPPP containment on the concrete slab), documenting the flow with photos and videos, pushing a small piece of closed cell backer rod in the notch in the washer, and sealing over the backer rod with plumbers putty. This operation happens at both TR's 12 & 13. The NaCl Solution level dropped very little in both wet chambers from this operation, but we still refill the wet chambers at both test rigs at approximately 1100.

A 7kW generator – Whisperwatt 7000 – ABF ID 002343 is on idle/standby at the test rig work area. A 40kW generator – MQ Power 40 – ABF ID 002051 is used to run the hydraulic pump for the jacks for less than an hour. An oxyacetylene torch is on idle/standby at the test rig work area. A compressor – IR P185 ABF ID 000002 is on idle/standby at the test rig work area. A Kubota Cart is used at the test rig work area.



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when the ironworkers arrive for today's tensioning step.

Note that there is k-rail at this work area. Some of the k-rail is rented and addressed by the rental agreement. Some of the k-rail is ABF's k-rail used on site and paid as rented from ABF on a daily basis. To elevate the k-rail, crane mats and timber blocking (12x12's) are in use. The k-rail quantities are as follows:

10' bought k-rail = 20 pieces

10' ABF k-rail = 4 pieces

20' rented k-rail = 10 pieces

20' ABF k-rail = 16 pieces

Note that this includes three 20' ABF k-rail between the CCO 314 work area and FW Spencer's yard, with that k-rail being in place prior to the CCO work and not related to CCO 314. Also a fourth 20' ABF k-rail is between the CCO 314 work area and FW Spencer's yard along the fence line near the BayView Trailer.

The agreed extra work with ABF is as follows:

Engineer Kelvin Chen - 1 hr

Ironworker Jared Garrett - 1 hr

Ironworker Kyle Crowley - 1 hr

Kubota Cart - 1 hrs

40kW Generator - 1 hr

k-rail: 10 pcs @20' and 4 pcs @10'

Crane Mats (12x12 - 5'x16') - 4 pcs

Crane Mats (12x12 - 5'x7') - 15 pcs

See the attached Extra Work Order - Signed with ABF for CCO 314 work